

Serial No. 10/501,724
Atty. Doc. No. 2001P22564WOUS

Amendments to the Claims:

Please amend the claims as shown.

1-12 (canceled)

13. (currently amended) An eddy current measuring device, comprising:

a flexible base;

~~a first electrical component connected to the flexible base~~ a single signal coil;

~~a second electrical component connected to the flexible base;~~ a single excitation coil;

wherein the signal coil and the excitation coil are arranged in a planar form in a single layer on the flexible base; and

a flexible rear layer comprising a ferromagnetic material that at least partially covers the ~~first and second electrical components~~ signal coil and the excitation coil;

wherein the flexible base, ~~the first and second electrical components~~ the signal coil, the excitation coil, and the flexible rear layer are assembled in a flexible stack of layers that is sufficiently flexible to variably conform to a radius of curvature down to 50 mm on a surface of a test body.

14. (previously presented) The device as claimed in claim 13, wherein the flexible base is a flexible sheet.

15. (previously presented) The device as claimed in claim 14, wherein the sheet is formed from polyimide.

16. (currently amended) The device as claimed in claim 13, ~~wherein at least one coil is connected to the flexible base as an electrical component and is a copper coil~~ at least one of the two coils is made of copper.

17. (previously presented) The device as claimed in claim 13, wherein the flexible rear layer is formed by a polymer sheet filled with ferrite.

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18. (previously presented) The device as claimed in claim 13, wherein the flexible rear layer is formed by a flexible metal sheet composed of a ferrite material.

19. (previously presented) The device as claimed in claim 13, wherein the flexible rear layer is formed by a plastically deformable encapsulation compound filled with ferrite particles.

20. (cancelled)

21. (previously presented) The device as claimed in claim 13, wherein the device has ferromagnetic signal amplification.

22. (cancelled)

23. (currently amended) An eddy current measuring device, comprising:
a flexible base formed as a flexible sheet of polyimide;
a first electrical component connected to the flexible base;
a second electrical component connected to the flexible base; and
a rear layer comprising a flexible curable material encapsulating ferrite particles, the rear layer attached to at least one of the electrical components on a curved surface of the rear layer to match a curved surface of a test body;

wherein the flexible base, the first and second electrical components, and the rear layer collectively form an assembled stack that is flexible after curing of the curable material to variably conform to a curved surface of a test body.

24-25. (cancelled)

26. (previously presented) The device as claimed in claim 23, wherein at least one coil is connected to the flexible base as an electrical component and is a copper coil.

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27. (previously presented) The device as claimed in claim 23, wherein the device has ferromagnetic signal amplification.

28. (currently amended) An eddy current measuring device, comprising:
a flexible base layer comprising a front surface and a rear surface, the front surface exposed for contact with a test surface of a test body;
a first electrical coil mounted on the rear surface of the flexible base layer;
a flexible rear layer comprising a ferrite material at least partially covering the first electrical coil;
at least one electrical conductor connected to the first electrical coil and passing through the flexible rear layer; and
the flexible base layer, the first electrical coil, and the flexible rear layer forming an ~~assembled stack sufficiently flexible that the front surface of the base layer can variably conform to a radius of curvature of a test surface down to 50 mm.~~ flexible stack of layers.

29. (previously presented) The device as claimed in claim 28, further comprising a second electrical coil mounted on the rear surface of the flexible base layer surrounding the first electrical coil.

30. (cancelled)